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Common Factors Worksheet

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Part 1: Building a Foundation

What is a factor of a number?

Hint: Think about how numbers relate to each other.

○ A) A number that divides another number with a remainder
○ B) A number that divides another number without a remainder
○ C) A number that is always greater than the original number
○ D) A number that can only be even

What is a factor of a number?

Hint: Think about how numbers relate to each other in division.

○ A) A number that divides another number with a remainder
○ B) A number that divides another number without a remainder
○ C) A number that is always greater than the original number
○ D) A number that can only be even

Which of the following are factors of 12?

Hint: Consider the numbers that divide 12 evenly.

☐ A) 1
☐ B) 3
☐ C) 5
☐ D) 6

Which of the following are factors of 12?

Hint: Consider the numbers that can divide 12 evenly.

☐ A) 1

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☐ B) 3
☐ C) 5
☐ D) 6

Explain in your own words what common factors are and why they are important in mathematics.

Hint: Think about how common factors relate to multiple numbers.

Explain in your own words what common factors are and why they are important in mathematics.

Hint: Think about how common factors relate to multiple numbers.

List all the factors of 18.

Hint: Consider all the numbers that can divide 18 evenly.

1. What are the factors of 18?

Part 2: Comprehension and Application

Which of the following statements is true about the greatest common factor (GCF)?

Hint: Think about the definition of GCF.

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○ A) The GCF is always 1.
○ B) The GCF is the smallest factor common to two numbers.
○ C) The GCF is the largest factor common to two numbers.
○ D) The GCF is always a prime number.

Which of the following statements is true about the greatest common factor (GCF)?

Hint: Think about the definition of GCF.

○ A) The GCF is always 1.
○ B) The GCF is the smallest factor common to two numbers.
○ C) The GCF is the largest factor common to two numbers.
○ D) The GCF is always a prime number.

If the factors of 24 are 1, 2, 3, 4, 6, 8, 12, and 24, which of these are also factors of 36?

Hint: Consider the factors of 36.

☐ A) 2
☐ B) 4
☐ C) 6
☐ D) 9

If the factors of 24 are 1, 2, 3, 4, 6, 8, 12, and 24, which of these are also factors of 36?

Hint: Consider the factors of 36 and see which match.

☐ A) 2
☐ B) 4
☐ C) 6
☐ D) 9

Use prime factorization to find the GCF of 18 and 24. Show your work.

Hint: Break down both numbers into their prime factors.

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Use prime factorization to find the GCF of 18 and 24. Show your work.

Hint: Break down each number into its prime factors.

What is the greatest common factor of 16 and 24?

Hint: Consider the factors of both numbers.

○ A) 2
○ B) 4
○ C) 8
○ D) 12

Part 3: Analysis, Evaluation, and Creation

If the GCF of two numbers is 1, what can you conclude about these numbers?

Hint: Think about the relationship between the numbers.

○ A) They are both even numbers.
○ B) They are both prime numbers.
○ C) They are coprime (relatively prime).
○ D) They are multiples of each other.

If the GCF of two numbers is 1, what can you conclude about these numbers?

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Analyze the following pairs of numbers and select those that are coprime.

Hint: Look for pairs that share no common factors.

☐ A) 8 and 15
☐ B) 9 and 28
☐ C) 14 and 21
☐ D) 25 and 30

Analyze the following pairs of numbers and select those that are coprime.

Hint: Consider the GCF of each pair.

☐ A) 8 and 15
☐ B) 9 and 28
☐ C) 14 and 21
☐ D) 25 and 30

Which method is more efficient for finding the GCF of large numbers, listing all factors or using prime factorization? Why?

Hint: Consider the time and effort involved in each method.

Which method is more efficient for finding the GCF of large numbers, listing all factors or using prime factorization? Why?

Hint: Consider the pros and cons of each method.

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Create a real-world problem that involves finding the greatest common factor, and explain how solving it can be useful in everyday life.

Hint: Think about situations where you might need to share or divide things evenly.

Create a real-world problem that involves finding the greatest common factor, and explain how solving it can be useful in everyday life.

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